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36. (as filed) The method of claim 20, wherein the ribonuclease is ribonuclease T1 or binase.

37. (as filed) The method of claim 20, wherein the first and second polypeptides each comprise a separate subsequence of a single functional ribonuclease polypeptide.

REMARKS

With this amendment, claims 1-4, 6, 7, 11-18, 20, 21, and 25-37 are pending in the present application and are currently under examination. Applicants would like to thank Examiners Zaghmout for the helpful telephone interview of February 25, 2000 with Applicant's attorney Annette Parent.

The Invention

The present invention provides for the first time a two-component system to produce a lethal effect in plant cells. In this system, two polypeptides are expressed in a plant cell. The polypeptides are encoded by expression cassettes located at the same locus on each of two homologous chromosomes. One expression cassette comprises a first promoter operably linked to a first polynucleotide sequence, with a recombinase site between the first promoter and the first polynucleotide sequence. The second expression cassette comprises the first plant promoter inoperably linked to the first polynucleotide due to the presence of a second expression cassette, flanked by two recombinase sites, between the first promoter and the first polynucleotide. The second expression cassette comprises a second promoter operably linked to a second polynucleotide.

Each expression cassette of the invention is individually functional, but the product of each cassette alone does not provide the desired lethal effect. The combination of the two polypeptides from the individual expression cassettes is required for producing the lethal effect. The first and second polypeptides can either be separate functional polypeptides from distinct loci, or nonfunctional polypeptide subsequences that together produce a single functional polypeptide.

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Status of the Claims

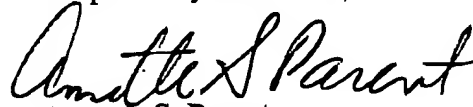
Claims 1 and 14 have been amended to recite "wherein at least the first or the second polynucleotide encodes an amino acid sequence of a nuclease, or wherein the first and second polynucleotides each encode a separate amino acid subsequence of a single functional nuclease." This amendment adds no new matter. Support for this amendment can be found, e.g., in the specification on page 11, lines 21-31 and page 13, lines 18-27.

Claims 6 and 20 have been amended to recite "wherein at least the first or the second polynucleotide encodes an amino acid sequence of a ribonuclease, or wherein the first and second polynucleotides each encode a separate amino acid subsequence of a single functional ribonuclease." This amendment adds no new matter. Support for this amendment can be found, e.g., in the specification on page 11, lines 21-31 and page 13, lines 18-27.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested. If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 415-576-0200.

Respectfully submitted,



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